

WHAT IS CLAIMED IS:

1. A compound comprising:
  - a. at least one elastomeric polymer, wherein the polymers does not  
5 include a conjugated aliphatic diene, wherein the polymer has an average molecular weight  $M_n$  of more than 20,000 g/mol and comprises repeating units derived from at least one  $C_4$  to  $C_7$  isomonoolefin monomer, at least one multiolefin cross-linking agent and at least one chain transfer agent, and, wherein the  
10 polymer comprises less than 15 wt.% of solid matter insoluble in boiling cyclohexane under reflux for 60 min,
  - b. at least one filler and
  - c. a peroxide curing system.
- 15 2. A compound according to Claim 1, wherein the multiolefin cross-linking agent(s) is norbornadiene, 2-isopropenylnorbornene, 5-vinyl-2-norbornene, 1,3,5-hexatriene, 2-phenyl-1,3-butadiene, divinylbenzene, diisopropenylbenzene, divinyltoluene, divinylxylene,  $C_1$  to  $C_{20}$  alkyl-substituted derivatives of the above compounds or mixtures thereof.  
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3. A compound according to Claim 1, wherein the chain transfer agent(s) is piperylene, 1-methylcycloheptene, 1-methyl-1-cyclopentene, 2-ethyl-1-hexene, 2,4,4-trimethyl-1-pentene, indene, or a mixtures thereof.
- 25 4. A compound according to Claim 1, wherein the peroxide system is an organic peroxide
5. A compound according to Claim 4, wherein the peroxide system is dialkylperoxides, ketalperoxides, aralkylperoxides, peroxide ethers,  
30 peroxide esters, such as di-tert.-butylperoxide, bis-(tert.-butylperoxy-isopropyl)-benzene, dicumylperoxide, 2,5-dimethyl-2,5-di(tert.-

butylperoxy)-hexane, 2,5-dimethyl-2,5-di(tert.-butylperoxy)-hexene-(3), 1,1-bis-(tert.-butylperoxy)-3,3,5-trimethyl-cyclohexane, benzoylperoxide, tert.-butylcumylperoxide, tert.-butylperbenzoate or a mixture thereof.

- 5     6.     A compound according to Claim 1, wherein the polymer comprises one or more additional polymerizable co-polymers selected from the group consisting of p-methylstyrene, styrene,  $\alpha$ -methylstyrene, p-chlorostyrene, p-methoxystyrene, indene and mixtures thereof.
- 10    7.     A compound according to Claim 1 further comprising a rubber selected from the group consisting of polybutadiene, butadiene/acrylic acid-C<sub>1</sub>-C<sub>4</sub>-alkylester-copolymers, polychloroprene, polyisoprene, styrene/butadiene-copolymers with styrene contents in the range of 1 to 60 wt%, butadiene/acrylonitrile-copolymers with acrylonitrile contents of 5 to 60  
15     wt%, partially or totally hydrogenated NBR-rubber, ethylene/propylene/diene-copolymers, fluoropolymers, fluororubbers and mixtures
- 20    8.     A process for the manufacturing of a compound according to Claim 1, wherein the elastomeric polymer is mixed with at least one filler and at least one peroxide curing system in a mixing means.
- 25    9.     A process for the manufacturing of an elastomeric polymer comprising the step of polymerizing a monomer mixture comprising at least one C<sub>4</sub> to C<sub>7</sub> isomonoolefin monomer, at least one a multifunctional cross-linking agent, and at least one chain-transfer agent in the presence of a catalyst, wherein the polymer contains less than 15 wt.% of solid matter insoluble in boiling cyclohexane under reflux for 60 min and has no double-bonds in the polymer chain.

10. A shaped article comprising a compound according to Claim 1.
11. A vulcanized shaped article prepared by vulcanizing a shaped article  
5 according to Claim 7.
12. A compound comprising:
- 10 a. at least one elastomeric polymer, wherein the polymers do not include a conjugated aliphatic diene, wherein the polymer has an average molecular weight  $M_n$  of more than 20,000 g/mol and comprises repeating units derived from at least one  $C_4$  to  $C_7$  isomonoolefin cross-linking agent and at least one chain transfer agent, and, wherein the polymer comprises less than 15 wt. % of  
15 solid matter insoluble in boiling cyclohexane under reflux for 60 min.,
- b. at least one filler, and
- c) a peroxide curing system,  
wherein the compound is isoprene free.

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